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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/089,438	07/01/2002	Shaun E. Mephram	978-57	6937

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EXAMINER

MCANULTY, TIMOTHY P

ART UNIT	PAPER NUMBER
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3682

DATE MAILED: 10/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/089,438

Applicant(s)

MEPHAM ET AL.

Examiner

Timothy P McAnulty

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 June 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 21-38 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 21-24 and 31 is/are rejected.
- 7) ☐ Claim(s) 25-30 and 32-38 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 June 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Drawings***

1. The replacement drawings were received on 08 June 2004. These drawings are approved.

### ***Claim Rejections - 35 USC § 103***

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. Claims 21-24 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 5,706,712 to Tischer et al. (Tischer '712).

Tischer '712 discloses in figure 18, a gear change mechanism comprising a selector 96h having a radially directed arm 98h; a first actuator assembly 100h connected to said selector to transmit axial movement thereto; a second actuator assembly 101h connected to said arm for transmitting rotational movement to said selector; wherein said first and second actuators are substantially perpendicular. Tischer '712 does not specifically disclose the structure of said first and second actuator assemblies. However, Tischer '712 further discloses in figure 2 an actuator comprising a cylinder 1a; a shaft 2a,2a'; a piston 17a; and hydraulic chambers wherein pressure fluid is introduced via ports A,M,B by way of valves 4a,5a,6a, respectively. Tischer '712 further discloses in lines 5-10 of column 2 said first and second actuators positionable to at least three positions. Therefore, it would have been obvious to one of ordinary skill in the art in view of the teachings of Tischer '712 to provide the gear change mechanism as disclosed in figure 18 with the actuators as disclosed in figure 2 so as to provide axial and rotary movement of a selector with two linear actuators thus reducing the number of different components of the gear change mechanism.

Regarding claims 23 and 24, Tischer '712 does not specifically disclose the location of the intermediate position of the piston of each of the actuators. However, the actuators are hydraulically controlled and are thus inherently positionable to any intermediate position between two end positions by regulating the amount of pressure fluid introduced to each chamber. Accordingly, the first and second actuators inherently include an intermediate position that is substantially equally spaced between end positions and at least four positions regularly spaced between end positions.

***Allowable Subject Matter***

4. Claims 25-30 and 32-38 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art discloses or teaches the basic apparatus as set forth above. However, the prior art does not disclose four chambers within the cylinder each connectable to a source of pressure fluid to effect movement of a shaft. Although it is generally accepted that modifying an integral element into separate parts involves only routine skill in the art, *see Nerwin v.*

*Erlichman*, 168 USPQ 177 (PTO Bd. of INT. 1969), here modifying one of the disclosed chambers to be two chambers would be based upon impermissible hindsight. Modifying any of the chambers disclosed in Tischer '712 would destroy the apparatus thereof; the piston cylinder arrangement is not symmetrical and creating additional chambers would require further modifications to ensure the proper operation, such further modifications are not taught by the prior art. Additionally, US Patent No. 5,722,297 to Tischer et al. (Tischer '297) teaches a symmetrical piston cylinder actuator having three chambers. However, Tischer '297 does not

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disclose actuators perpendicular to one another and specifically teaches away from being modified to be so. *See* lines 14-23 of column 1. Although the three chambers of Tischer '297 might be modified to be four chambers, *see Nerwin* 168 USPQ 177, further modification and combination of the prior art is required to meet the claims. Specifically, modifying Tischer '712 to comprise an actuator disclosed in Tischer '297 would require further modification of the secondary reference to meet the claims; namely four chamber within the cylinder.

### ***Response to Arguments***

5. Applicant's arguments with respect to claims 21-24 and 31 have been considered but are moot in view of the new ground(s) of rejection. Although US Patent No. 5,722,297 to Tischer et al. does not disclose first and second actuators perpendicular, US Patent No. 5,706,712 to Tischer et al. does so disclose first and second actuators.

### ***Conclusion***

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy P McAnulty whose telephone number is 703.308.8684.

The examiner can normally be reached on Monday-Friday (7:30-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bucci can be reached on 703.308.3668. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

tpm 

  
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